Lightweight Assault Boot (LWAB)

Overview:

A Concept Exploration program initiated by SBCCOM-Natick and supported by the USMC Warfighting Laboratory focuses on the MOUT environment and the deficiencies of current footwear in that environment. The results of a Front-End Analysis (FEA) completed with 1st MARDIV (Project Metropolis) and the 75th Ranger Regiment (2/75) found that the biggest problems with current boots (Jungle and Infantry Combat) were poor traction, physical protection, poor overall mobility, shock absorption, ankle support, and weight.

The results of the FEA, combined with known human performance data, produced the **Lightweight Assault Boot (LWAB)**. The shortened boot upper provides for increased mobility and agility. Design changes in the upper provide increased ankle support and improved physical protection for the ankles. The outsole was designed in conjunction with Vibram™ specifically for this program and incorporates a dual density design to optimize traction and durability. The forefoot of the outsole has a softer rubber for better traction and a larger contact area than the standard Vibram™ Sierra outsole. The heel of the outsole maintains the high durability requirement for all military environments. The outsole was optimized for MOUT, but was designed to work well in other terrains as well. The reinforced toecap is not impact resistant, but does offer some physical protection and increased wear time in the severe MOUT environment. The "Three-Layer System" bottoming construction technique allows the cushioned midsole to provide increased comfort and shock attenuation in the forefoot and heel. This cushion midsole technology has been shown to decrease the lower extremity injury by 30% in Basic Combat Training. The color of the LWAB was selected to reduce visible light and infrared signature (IR) as well as match the color of the ongoing MOUT uniform programs at SBCCOM-Natick.

Status:

Field tests have been executed by the USMC Warfighting Laboratory/Project Rifleman through February 2001. Biomechanical and Human Performance studies, Frictional Characteristics of the Outsole, and Measurements of IR Signature Reduction in MOUT are complete. A change to the construction technique has been made which significantly reduces the weight of the boot (1.65 lbs/boot), while increasing its shock attenuation and flexibility. Force Modernization Non-commissioned Officers from the 75th Ranger Regiment, various Special Forces Groups, Navy SEALs and other SOF users will be evaluating this item during 4Q01.

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